Araeopteron ecphaea, a small noctuid moth in the West Palaearctic (Noctuidae: Acontiinae)

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Summary. The small Acontiine moth *Araeopteron ecphaea* (Hampson, 1914) is recorded new to the West Palaearctic from Greece, Turkey, Spain (including Mallorca), and is further reported from additional countries in the Afrotropical region. The species is redescribed and the genitalia of both sexes are figured for the first time. The worldwide distribution of the known species of the genus *Araeopteron* Hampson, 1893 is given.

Zusammenfassung. Die kleine Acontiinae *Araeopteron ecphaea* (Hampson, 1914) wurde in Griechenland, der Türkei und Spanien (einschließlich Mallorca) erstmalig für die West-Paläarktis nachgewiesen. Hinzu kommen Nachweise aus verschiedenen Ländern in der Afrotropischen Faunenregion. Die Morphologie der Art wird beschrieben, die Genitalia beider Geschlechter erstmals illustriert. Die Verbreitung der bislang bekannten Arten der Gattung *Araeopteron* Hampson, 1893 wird aufgelistet.

Résumé. Le petit taxon d'Acontiinae *Araeopteron ecphaea* (Hampson, 1914) est nouvellement rapportée pour la région paléarctique occidentale de Grèce, de Turquie et de d'Espagne (comprenant Majorque), et est également mentionnée de pays supplémentaires de la région Afrotropicale. L'espèce est redécrite et l'armure génitale des deux sexes est illustrée pour la première fois. La répartition mondiale des espèces connues du genre *Araeopteron* Hampson, 1893 est donnée.

Key words. Noctuidae, Acontiinae, *Araeopteron ecphaea*, West Palaearctics

Introduction

Among the Microlepidoptera preserved for Ole Karsholt, Zoological Museum Copenhagen (ZMUC), was one specimen of a very small Noctuid taken by the first author from Greece in July 1990. The determination caused difficulty, both because the conspicuous wing-shape was unfamiliar among European Noctuidae, and the specimen was a female. Judging from the size, the wing pattern, and the shape of the wings the specimen could belong to *Araeopteron* Hampson but the distribution of species in this genus made it unlikely. The closest known *Araeopteron* species, geographically, are from Sri Lanka and Nigeria. A loan of two of the five species occurring in Japan made it clear from the genitalia that the Greek specimen indeed belonged to *Araeopteron*, and it was presented at the Nocutidae workshop during the SEL Congress in Lednice in 1994. The first author decided not to publish the record until both sexes were known, and tried with success to obtain further specimens in 1997 (one male was recorded).
The second European specimen to be recognised, a male, was taken by the second author on Mallorca in May 1997. It was shown to various experts in The Natural History Museum (NHM) in London, among whom Jeremy Holloway, suggested to David Agassiz the Acontiinae subfamily. The Mallorcan specimen appeared to match the holotype of *Araeopteron ecphaea*. A dissection of the holotype by Martin Honey confirmed that the Greek specimen was conspecific with *A. ecphaea* Hampson.

Araeopteron ecphaea (Hampson, 1914)

Material examined. – In all 19 specimens of *Araeopteron ecphaea* are known: Holotype ♂ (Fig. 1), Nigeria, Baro, Genitalia slide No. BM Noct. 16421, coll. NHM (Fig . 5); ♀ Greece, 10 km S of Iguminitsa, 2 m, 25–26.vii.1990. Genit. prep. 4844 O.Karsholt, leg. & coll. M.Fibiger; ♂, Greece, 11 km S of Iguminitsa, Plataria-Faskomilia, 30 m, 14.v.1997, genit. prep. 3150 M. Fibiger, leg. H. Habeler, coll. H. Hacker; ♂, Greece, 12 km S of Iguminitsa, Plataria, 5 m, 29.vii.1997, leg. & coll. M. Fibiger; 2♂, 1♀, Greece, W, Lefkada Is., Nidri, 16-19.viii.1995, leg. J. P. Baungaard, coll. ZMUC; 3♂, Greece, Crete, 15 km S Chania, 100 m, 30.vi.2000, leg. M. Fibiger, D. Nilsson, A. Madsen, P. Svendsen; 3♂ Spain, Mallorca, S'Albufera, coll. NHM: (i) 22.viii.1995, leg. N. Riddiford, BM Noct. slide No. 16427 (Fig s 3–4), (ii) 26.viii.1995, leg. N. Riddiford, (iii) 3.v.1997, leg. D. J. L. Agassiz (Fig. 2); ♂, Spain, prov. Cadiz, 2 km S of Almoreima, 50 m, 24.ix.1987, leg. P. Skou, genit. prep. 3609 M. Fibiger, coll. ZMUC; ♂, Spain, Barcelona, Lloret de Mar, 30.vi.-7.vii.1998, leg. & coll. Z. Tokár; ♂, Turkey, Taurus, 10 km N Adana, 50 m, 6.ix.1983, genit. prep. 3157 M. Fibiger, leg. & coll. G. Derra; ♂, Yemen, Prov. Ibb, Wadi Malhama, Village Malhama, 20 km NNE Ibb, 1650 m, 6.v.1998, genit. prep. 3163 M. Fibiger, leg. A. Bischof, J. Bittermann, M. Fibiger, H. Hacker, H. Peks, H.-P. Schreier; ♂, Congo, Elisabethville, 24.x.1937, genit. prep. 3160 M. Fibiger, leg. Ch. Seydel, Royal Museum of Central Africa, Tervuren; ♂, Malawi, Mulanje Mts, Likabula, 800 m, 19.x.1996, *Brachystegia* forest, LF, genit. prep. 3166 M. Fibiger, leg. W. Mey & M. Nuss, Museum für Naturkunde, Berlin; ♂, Namibia, E Caprivi, Katima Mulilo, 17'29 S / 24'17 E, lux, 3–8.iii.1992, genit. prep. 3165 M. Fibiger, leg. W. Mey, coll. Museum für Naturkunde, Berlin.

Diagnosis. – Wingspan 11–12 mm. Head pale straw, palpi curved upwards, terminal segment 2/3 length of second segment; ochreous, suffused dark fuscous on outer sides. Antennae of both sexes filiform, pale straw. Thorax and forewing pale straw, costa of forewing with irregular sequence of narrow blackish spots; crosslines light brownish, weakly marked, terminal area suffused blackish from tornus to below apex forming an indistinct spot one third of distance from apex; subterminal line whitish; terminal spots present; fringes with suffusion of fuscous scales; a conspicuous black discal spot. Hindwing heavily suffused blackish and fuscous. Abdomen blackish, pale scaled on edge of each segment and anal tuft. Legs pale ochreous, foreleg suffused blackish above, 2 tibial spurs on hind leg.

Male genitalia. – Armature (Fig. 3) simple, uncus curved, valves with a strong thorn-like clasper arising from the inner surface and reaching to the costa. Aedeagus (Fig. 4) cylindrical, a small sclerotiosed plate in the vesica.

Female genitalia (Fig. 5). – Ductus bursae twisted with a broad diverticulum, corpus bursae ovoid, signum comprising a "shuttlecock" shaped structure, with a variable number of spines internally. Ventrally, between the 8th and 9th abdominal segments, and between the anterior ends of the ovipositor lobes is a peculiar membranous, rounded, conical structure (a flat-topped hill) with long narrow setae. This structure varies in size and shape between the species but may be autapomorphic for the genus.

Bionomics. – Little is known concerning the biology of *Araeopteron* species. Like other Acontiinae species *A. ecphaea* seems to be multiple brooded, in Europe at least occurring from May to September. The habitats are situated in moist areas. The Greek specimens were taken close to the seashore in dried-out maquis and grass vegetaion, but not from river beds or around lakes. The Mallorcan specimens were recorded from the middle of a large (2 x 1km) wetland biotope, consisting mainly of *Phragmites* reedbeds, they were taken at the Park headquarters. All specimens were taken at light, 15W superactinic tube and 125W mercury vapour lamps, respectively. The early stages are unknown.

Fig. 1. Holotype female *Araeopteron ecphaea* (Hampson), Nigeria, Baro.

Remarks. – The genus *Araeopteron* was erected by Hampson in 1893 as a monotypic genus for the species *A. pictale*. Since then 28 more species have been described in the genus, *ecphaea* was originally described in *Araeoptera* a Hampson, 1914, a synonym of Araeopteron. The apomorphic characters states which define the genus are in the wing venation (Fig. 6) and the structure in the female genitalia described above. Other synapomorphies for *Araeopteron* are the pointed apex of the narrow forewing and in the genitalia the structure of the male armature and the signum in the bursa of the female. These are distinct from other European representatives of Acontiinae. The monophyly of the Acontiinae is based on the following characters: an enlarged, heavily sclerotised alula overlying the tympanum and a reduced counter-tympanal hood. The male genitalia are often asymmetrical. In larvae the spinneret is often reduced. SV2 is absent on A1 and prolegs are absent on A3-4. Acontiinae larvae are frequently obligate feeders on Malvales and Asteraceae, but are of no economic importance (Kitching & Rawlins, 1999).
A. ecphaea has a characteristic resting posture for a noctuid moth, which might prove to be a synapomorphic character for the genus: the forewings are slightly spread so that the termen of the hindwing is visible.
In the Euopean list of Noctuidae (Fibiger & Hacker 1991; Nowacki & Fibiger 1996) *Araeopteron* should be listed between *Eublemma* and *Rhypagia*.
Distribution. – The 29 described species of *Araeopteron* are distributed in the tropical and sub-tropical regions world-wide. In the Palaearctic *Araeopteron* is known from five species from the East Palaearctic and at least two undescribed species. To these is now added *A. ecphaea* from Europe (Greece, mainland Spain and Mallorca), from Turkey, the Arabian Peninsula and from the Ethiopian region (Nigeria, Congo, Malawi, Namibia). An undescribed species occurs in Sierra Leone. In the Oriental region occur 12 described species, mostly from Sri Lanka, and also including Borneo, Mauritius and

Fig. 2. Male, Mallorca, S'Albufera, 5.v.1997.

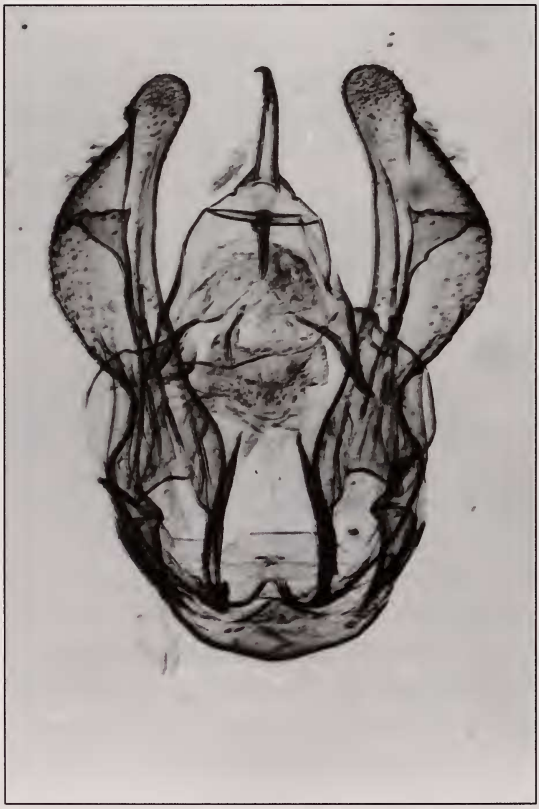

Fig. 3. Male genital armature of *A. ecphaea*.

Fig. 4. Aedeagus removed from armature of Fig. 3.

Fig. 5. Female genitalia of holotype of *A. ecphaea*.

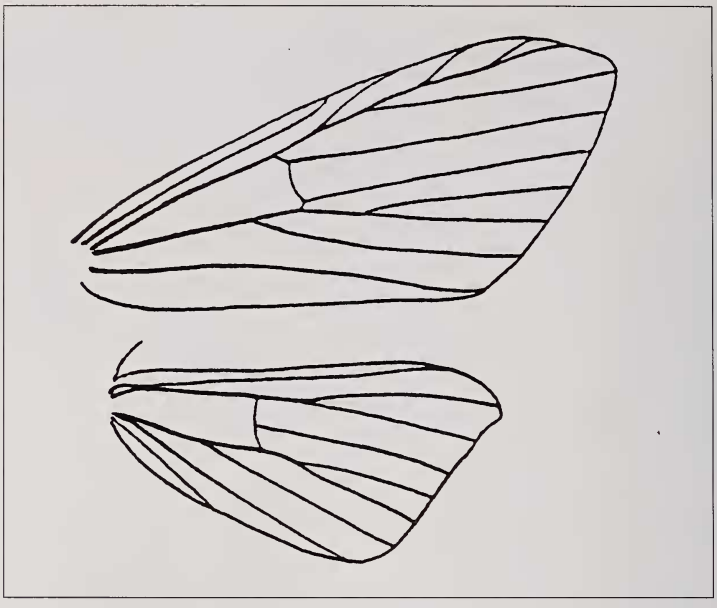

Fig. 6. Wing venation of an Araeopteron species (from Inoue, 1958)

the Seychelles. Undescribed species occur in Thailand and Hong Kong. In the Australian region seven species have been described from eastern Australia (Queensland). In the Neotropical region (The Caribbean) 4 species occur.
Further study may reveal that *Araeopteron* has a less fragmented distribution in the world, and that *A. ecphaea* in Europe is more widely distributed in near-coastal habitats of the Mediterranean area.

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